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ARCHES NATIONAL PARK MAIN ENTRANCE ROAD,
MOAB CANYON WASH CULVERT
Spanning Moab Canyon Wash at
Main Entrance Road
Moab vicinity
Grand County
Utah

HAER No. UT-70-A

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
P.O. Box 37127
Washington, D.C. 20013-7127

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HISTORIC AMERICAN ENGINEERING RECORD

ARCHES NATIONAL PARK MAIN ENTRANCE ROAD, MOAB CANYON WASH CULVERT
HAER No. UT-70-A

Location:	Spanning Moab Canyon Wash at Main Entrance Road, North of U.S. Highway 191, approximately 22 miles South of Interstate 70, Arches National Park, Moab Vicinity, Grand County, Utah. USGS Quad: Arches National Park, Utah UTM: 12/620311/4274956
Type of Structure:	Culvert, vehicular crossing
Use:	Primary access to Arches National Park and Main Entrance Road across Moab Canyon Wash
Designer/Engineer:	National Park Service
Builder:	Civilian Conservation Corps (CCC)
Owner:	National Park Service, Department of the Interior
Significance:	Constructed by the CCC in 1941, the Moab Canyon Wash Culvert was built in a manner which would not intrude on the scenic quality of the area yet allow visitor access into Arches National Park.
Project Information:	Documentation of the Arches National Park, Moab Canyon Wash Culvert is part of the National Park Service Roads and Bridges Project, conducted during the summer of 1993 under the co-sponsorship of HABS/HAER and the National Park Service Roads and Bridges Program. Christine Madrid, L. HAER Historian, 1993.

INTRODUCTION

Located in southeastern Utah, Arches National Park is located off U.S. Highway 191 (previously U.S. Highway 160), approximately 22 miles south of its intersection with Interstate 70 (previously U.S. Highway 50) and six miles north of Moab, Utah. The area was first formally recognized as a National Monument by Presidential Proclamation on April 12, 1929, consisting of only 4,520 acres in two detached sections. The monument was eventually enlarged to its present area of 73,233 acres, becoming a National Park on November 16, 1971 through a Public Law signed by Richard M. Nixon.[1] The park was established to protect and make accessible the greatest concentration of natural arches in the world. At last count, approximately 1800 arches have been named and noted, all within the boundaries of the park. In addition to the arch formations, the park protects an amazing variety of animals and plants, all adapted to and thriving in the intense desert heat and dry conditions of southern Utah.

HISTORY

The Moab Canyon Wash Culvert was constructed by the Civilian Conservation Corps in 1941 under the supervision of the National Park Service, a year in which many road-related improvements were begun by the Corps at Arches National Park. The culvert is located just north of Highway 191, allowing vehicles to cross over the dry wash and travel a short distance into the administrative area, including the visitor center and entrance gate for the park.

The culvert stretches 66′ between the banks of the wash with a 20′ clear span semi-elliptical arch allowing for the fairly infrequent (although occasionally turbulent) passage of water beneath. The multi-plate corrugated steel arch is earth filled and supports the roadway leading into the park. Masonry headwalls face either side of the culvert, supported by concrete footings. The roadbed lies 21′ above the bed of the wash, while the headwall of the culvert itself reaches only 15′ above the ground surface.

The corrugated steel arch and earth fill is supported by a concrete stemwall measuring 4′-6" tall. The stemwall protects the poured, excavated abutments from scouring. The side walls themselves rest on a 17" wide, 6" thick reinforced concrete

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[1] John F. Hoffman, *Arches National Park: An Illustrated Guide* (San Diego, CA: Western Recreational Publications, 1985), 63.

footing running along the length of the structure.

The headwalls on either side of the culvert feature native sandstone cut into square shaped blocks of irregular size, laid in relatively even courses with flush mortar joints. The blocks frame an arch composed of stone voussoirs measuring approximately 3′ long and accented by a wider keystone. Close attention was paid to the materials selected for the headwalls, care being taken to use local sandstone in subtle red, white and gray colors. The resulting structure takes on an appearance which is similar to the tone of the natural rock formations and soil which surround the site, remaining consistent with the environment.

Stone riprap was utilized upstream (west) of the culvert to protect the banks of the wash from deterioration, preventing damage and providing stability to the culvert. Piled stone rubble safeguards the banks and abutments on the downstream side of the structure.

The culvert was expanded to 37′ in length in November 1957 to provide a wider road surface for increased visitation. At this time the roadway was enlarged to 26′ wide, allowing for two 10′ traffic lanes with gravel shoulders. There are no sidewalks or railings provided for pedestrian traffic, as the passage is intended primarily for vehicular travel.

The expansion of the roadway and resultant alteration of the culvert required that the east headwall be removed from its footings and physically pulled apart from the opposite wall. To complete this procedure, the existing roadbed and earth fill above and adjacent to the multi-plate corrugated steel arch were removed. Bolts holding the plates of the arch together were disengaged, and the concrete stemwall was cut through at about the same point. A wooden framework was erected inside the arch to maintain the stability of the headwall. The footings were then excavated, allowing the crew to jack up the headwall and install two sets of metal rails (three rails on either side of the arch) over wooden skids, placed underneath and perpendicular to the structure. The wall itself was most likely brought down upon this temporary track, resting on metal wheels or some other similar device intended to facilitate movement of the structure and reduce friction. A Chevrolet pickup truck was used to pull the headwall along the skids until it reached the new prescribed location. The process of deconstruction was reversed, resulting

in a longer culvert carrying a wider roadway.[2]

The culvert today continues to serve visitors to Arches National Park. The integrity of the structure is in question, due to the 1957 expansion detailed above. The headwalls, however, have not been drastically altered and appear much as they did when originally constructed.

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[2] The process of moving the headwall was determined through historic photographs of the event located in the Arches National Park Administrative Collection (1929-1992), D30-Roads & Trails, Photo Nos. 20, 22, and 26, Cat. Nos. 3322.66, 3322.67, and 3322.69, respectively.

BIBLIOGRAPHY

Hoffman, John F. *Arches National Park: An Illustrated Guide*. San Diego, CA: Western Recreational Publications, 1985.

Photos 20, 22, and 26, Catalogue numbers 3322.66, 3322.67, and 3322.69. Arches National Park Archives, Folder D30, Roads and Trails.